

CENTURYLINK TEACHERS AND TECHNOLOGY GRANTS PROGRAM
COMPLETION SUB-GRANT PROPOSAL ACKNOWLEDGEMENT SHEET

Project Title: Student Created Tutorial Videos Amount of Request: \$ 4800

Name of Certificated Teacher (or "lead teacher" if more than one): Holly Harrison

Name of School currently teaching at: Kershaw Intermediate

District Name: Sugar Salem School District District Number: 322



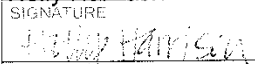
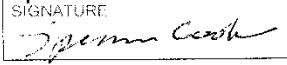
Total number of teachers involved (if more than one): 1 Grade level(s) impacted: 5th

Please list other teachers involved if this is a team application: _____

Content area(s) impacted: Math

I certify that if I receive a CenturyLink Teachers and Technology Program Grant –

- 1. I agree to create a 5-minute video highlighting my project for the purposes of sharing best practices with other Idaho PreK-12 teachers.**
- 2. I agree to do one presentation on my project to other Idaho PreK-12 teachers before December 31, 2015 (by 5 pm MST).**
- 3. I agree to submit an electronic report to the Idaho State Department of Education on or before December 31, 2015.**

SUPERINTENDENT NAME (PRINT) Alan Dunn SIGNATURE 	E-MAIL adunn@sugarsalem.com	TELEPHONE 356-8802
PRINCIPAL NAME (PRINT) Neil Williams SIGNATURE 	E-MAIL nwilliams@sugarsalem.com	TELEPHONE 356-0241
TEACHER OR LEAD TEACHER NAME (PRINT) Holly Harrison SIGNATURE 	E-MAIL hharrison@sugarsalem.com	TELEPHONE 356-5775
TECHNOLOGY DIRECTOR (PRINT) Spencer Cook SIGNATURE 	E-MAIL scook@sugarsalem.com	TELEPHONE 356-8802

CenturyLink Teachers and Technology Grants Program
Applicant certification

As an applicant for a CenturyLink Teachers and Technology Grant, you are required to certify the following statements. Please ensure that you work with the necessary individuals within your school or district to ensure that the following statements are accurate.

1. 1. After reasonable investigation (such as conferring with the school's network administrator), the applicant does not anticipate that the proposal, if selected for award, would significantly increase the school's network capacity needs.

Holly Harrison
Signature of applicant

Heidi Nutter
Signature of principal

12/19/2014
Date

12-19-14
Date

1. 2. The applicant is not involved in any procurement decisions regarding the purchase of the school's telecommunications and internet services, including its participation, if any, in the E-Rate program.

Holly Harrison
Signature of applicant

Heidi Nutter
Signature of principal

12/19/2014
Date

12-19-14
Date

1. 3. The applicant confirms that receiving this grant will have no impact on and will not be considered in E-rate procurement decisions for their school or school district.

Holly Harrison
Signature of applicant

Heidi Nutter
Signature of principal

12/19/2014
Date

12-19-14
Date

Applicant's Name (please print): Holly Harrison

City and State: Sugar City, Idaho

School Name: Kershaw Intermediate

School District: Sugar Salem School District

CURRENT INNOVATION

For the past 8 years, I have taught 5th grade. During this time I have seen a huge spectrum of student talents, abilities and learning styles in any given classroom. Textbooks are helpful but are certainly not one size fits all. In an attempt to motivate students, engage higher level thinking and tap into student creativity, I have utilized Web 2.0 projects and iPad apps to supplement the school district's curriculum. With the advent of the Idaho Core Standards, I feel an even greater need to use methods within the classroom that promote deeper, more thoughtful and inventive thinking.

Using the classroom iPad purchased by our school for each teacher and some borrowed iPads, I had my students write a haunted story for Halloween and then record themselves telling the story. I was amazed at the excitement and involvement in the classroom. Even the most reluctant of students couldn't wait to finish writing their story so they could record it. Next, I tried having the students make "paper slide shows" defining adjectives. (Sample project at <http://tinyurl.com/m74no7f>) Again, students who absolutely refused to do grammar worksheets were willing to stay in at recess to finish their projects.

Because of the eager participation I received from students on these projects, I had my students make a video about multiplying a whole number by a fraction. Our math text book has required that the students show this process through a diagram. In the past I have often skipped teaching the diagram because it was somewhat cumbersome. Further, I thought that the diagram was difficult for students to comprehend. Yet with the introduction of the Idaho Core Standards, I knew that this step needed to be included. When the students were allowed to solve the problem using the free screencasting app, Educreations, the students really grasped the concept. I saw students who struggled with math giggling and smiling while successfully completing what I thought were difficulty problems. (Sample project at <http://tinyurl.com/nquvqgo>) Also, as I viewed student videos, I could see flaws in student processing that could easily be corrected.

Another approach I have used to modify instruction for individual students is a "flipped" lesson. Using the built in camera, I recorded a couple of "flipped" language arts lessons. I recorded myself teaching the lessons at home and posted them on YouTube. (See lesson at <http://tinyurl.com/lcysnzv>) Then at school, I gave the students an assignment to watch the lessons at their home and complete a simple homework assignment at home. The next day in class I had the students do an extension of the video lesson.

I felt that the flipped lessons were successful. Students seemed very eager to watch the lessons. I think they liked the variety. Also, I noticed that some students were going home and viewing the lessons with peers from class and working on the assignments together which I thought was effective. Other students who came to class without watching the videos were allowed to watch them during class time. I felt that for the students, the videos became a one-on-one instruction. The students could pause and replay the videos as needed for clarification or understanding.

I recorded these lessons on the weekend at home in my family's office room. My daughter, who is a student at the school where I teach took an interest in these videos. She had several helpful suggestions and innovations on how I could make my videos more appealing and inviting to students. Soon she was requesting to make videos herself. She truly enjoyed the process and I was amazed at how much fun she had making a video. I thought, "Why not have my students in class make teaching videos?"

Through this process, I have felt that if more iPads could be made available, students could be in smaller groups and more videos could be made with more students engaged in the higher level thinking skills needed to create effective video tutorials. Also, with devices readily available, students could view the videos in class as needed in order to re-examine a concept, review material missed due to absence, or correct a misunderstanding.

PROJECT NARRATIVE

Project Description

In order to prepare students for the Idaho Core Math Standards, reach more students through their diverse ability levels and learning styles and engage students in authentic and inventive projects, I am proposing a classroom digital student tutorial system where students design, create and publish math tutorial videos for others within the class and possibly school and district. According to the 5th grade Idaho Core Math Standards, the following standards allow or require students to solve problems through the use of a drawing, illustration or model. The tutorials would directly address these standards along with other math concepts in need of review or re-teaching.

CCSS.Math.Content.5.NF.A.2 Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using **visual fraction models** or equations to represent the problem.

CCSS.Math.Content.5.NF.B.3 Interpret a fraction as division of the numerator by the denominator ($a/b = a \div b$). Solve word problems involving division of whole numbers leading to answers in the form of fractions or mixed numbers, e.g., by using **visual fraction models** or equations to represent the problem.

CCSS.Math.Content.5.NF.B.4a Interpret the product $(a/b) \times q$ as a parts of a partition of q into b equal parts; equivalently, as the result of a sequence of operations $a \times q \div b$. *For example, use a visual fraction model to show $(2/3) \times 4 = 8/3$, and create a story context for this equation.*

CCSS.Math.Content.5.NF.B.6 Solve real world problems involving multiplication of fractions and mixed numbers, e.g., by using **visual fraction models** or equations to represent the problem.

CCSS.Math.Content.5.NF.B.7a Interpret division of a unit fraction by a non-zero whole number, and compute such quotients. *For example, create a story context for $(1/3) \div 4$, and use a visual fraction model to show the quotient.*

CCSS.Math.Content.5.NF.B.7b Interpret division of a whole number by a unit fraction, and compute such quotients. *For example, create a story context for $4 \div (1/5)$, and use a visual fraction model to show the quotient.*

CCSS.Math.Content.5.NF.B.7c Solve real world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions, e.g., by using **visual fraction models** and equations to represent the problem.

CCSS.Math.Content.5.NBT.B.6 Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. **Illustrate and explain** the calculation by using equations, rectangular arrays, and/or area models.

By using iPad screencasting apps to demonstrate these standards, students will see and hear each other modeling, computing and drawing the visual simulations step-by-step. In the explanations, students will speak their thoughts and show their actions throughout the problem solving process. Then, when recorded and posted, other students are able to hear from their peers who understand this process. Viewers will hear student friendly explanations from their peers.

A similar classroom video tutorial project was reported on by author Alan November in the book Who Owns the Learning. The author interviewed students who had created the video tutorials. In the words of one student, creating the tutorials becomes a powerful teaching method. "When you explain it, you're basically re-teaching it to yourself so that really helps you understand it. And also, it's really fun. So it's a win-win situation." Also, students become effective teachers for one another. Another interviewed student stated, "It helps more if students teach students because teachers kind of understand things in their own way. They're just used to knowing everything. But when a student learns it for the first time, it's easier for them to tell another student."

Project Team Members

The project team members will include after school homework club teachers, the school librarian and myself. My role in the project would be to implement video creation with students. Students will be taught in basic video and screencasting procedures. I will post the videos to YouTube and make them available on a math classroom blog and copy QR codes for quick reference. After school homework club teachers would assist students in locating math tutorial videos using the iPads or other student devices. The librarian would help with creating and checking out math tutorial video CDs for student home use where no internet is available.

Feasibility

Having students design, create and publish math tutorial videos will be accomplished functionally within the classroom. I know that students enjoy the creativity of making the videos and have had success viewing them in school. The video creation will certainly not replace the current math textbook and curriculum used within our school, but will be a needed supplement. Having multiple classroom iPads will allow students to be involved in the production process and ready access to viewing tutorials.

Although it will involve additional time to create and view the videos, I believe that it will eventually save time in less re-teaching and helping students move forward with a better understanding of grade level math concepts.

Sustainability

Creating digital videos throughout the year will be not only a project that will be maintained but also improved as time goes on. I foresee that the students and I will become more adept at creating quality teaching videos that can be easily viewed and understood by peers. I look forward to repeating this project with upcoming grade levels and having videos available for future student use. Because the videos will be stored on the classroom blog, YouTube, and CDs, the program tutorials can continue beyond the lifespan of the iPads.

School/District Support

Our school and district administration have been extremely supportive of technology implementations within the classroom. Although this will not be a specific part of the school's math curriculum, the administration is supportive of the extra class time spent on math videos and allowing students to use iPads during the school day. School administration has also committed to purchase the ancillary requirements for the iPad and video maintenance (i.e. covers, storage, CDs, and any additional apps that are required.)

Anticipated Outcomes/Impact

I foresee that the math video tutorials will be a great benefit to students. Students will think it is "cool" to get help with their math instead of being afraid or hesitant to seek for help. Students will relate to information presented by their peers more readily than tutorials created by professional text book companies. Students will be able to watch and re-watch the videos as needed. Students will get on-demand one-on-one help with difficult concepts. I predict that this will reach students in a different way than the traditional way of teaching math.

Additionally, students will get more in-depth exposure to grade level concepts and apply higher level thinking skills in the creation of videos. Being able to effectively explain a concept requires a completely different understanding of the topic than just being able to compute an answer. For this reason in itself, the process of tutorial design will be very beneficial academically to the students.

As the project grows and the videos are made available through social media, the benefit to students will quite possibly reach far beyond the walls of the classroom and school. Students in other schools within the district and outlying districts may find assistance with similar math questions.

Scope and Sequence

May 2015-June 2015	Obtain iPads and prepare for student use in classroom including installing screencasting apps
Aug 2015	Obtain parent permission for students to post videos online. To protect student identity, students will be identified by fictitious names and no student “faces” will be shown on tutorial videos.
Aug 2015	Administer math pre-assessments, analyze student miscues, and identify areas of need
Sept 2015	Introduce student video program Define rubrics for student video tutorials Begin student video design, creation and publication
Sept 2015-May 2016	Ongoing formal student surveys and informal teacher observations to identify areas of need for tutorial videos
	Weekly student video design and creation throughout school year
	Post student video creations to classroom blog
	iPad devices available daily for student use during math, study hall and after school homework club
	Share student videos with other classrooms in school, district and outlying districts through blog subscription and emailing QR codes
	Make student CDs available as needed through school library

Through a variety of means, I would identify which grade level math concepts are most in need of video tutorials. This would include the beginning of the year math pre-assessment, and interviews with higher grade level math teachers to determine what the common math misunderstandings are. Throughout the year, I would continue to analyze bi-weekly math assessments, student surveys, and student observations to determine areas of insufficient understanding.

To prioritize time for the videos, a weekly block of time would be set aside specifically for the tutorial creation. This would be separate from math instruction and independent work time. Further, so that the videos will be available in a timely manner to students and others, I plan to dedicate a specific weekly prep time to previewing the videos, uploading the videos to YouTube, and posting videos on classroom blog or creating a video CD for student home use.

In order to create the videos, I would begin by showing several models of tutorial videos. With student input, the class would create a rubric for math video assignments. This rubric could include, for example, introducing the topic, defining new terms, step-by-step instruction, and clear speaking.

Students will design and create video tutorials using the iPad camera and free screencasting apps including Docrer, ShowMe, Screenchomop, and Educreations. Students will create videos as part of the math curriculum. For students to be able to access one another's videos, a classroom math blog will be set up where links to videos will be posted. Because of student safety issues, I will manage the blog and the classroom YouTube.

Further, for help with material review and students in upcoming grades, QR codes will be made of the video links and taped in math books. Students can use the iPad or their own device to scan the QR code for help with specific lessons. These codes will be made available to other classrooms within our school district and surrounding districts.

To make the tutorial videos readily accessible, iPads will be kept within the classroom and will be accessible to students during math, study hall and after school homework club. Students will be able to view videos from home computers by accessing the classroom blog. For students who do not have access to Internet at home, a CD will be made as needed with videos. Or if needed, a device could be checked out for student use to view saved videos at home.

BUDGET NARRATIVE

The capital objects needed for this project would be fully funded from this grant. For the student created math tutorial video project, 12 iPad Minis would be purchased at a cost of \$400 each from a local vendor. The cost would total \$4800. As the need arises for CDs to be created for students without internet access at home, CDs would be purchased from classroom funds. The YouTube account, classroom blog, iPad screencasting apps are all available for classroom use at no cost.

BUDGET SPREADSHEET

Activity	Materials and Supplies	Capital Objects	Quantity	Price Per Unit	Subtotal
Digital Math Tutorial Video Creation	Screenrecasting Apps Classroom Blog, YouTube	iPad Mini	12	\$400	\$4800
				Grand Total	\$4800